

These two centers passed rapidly eastward, and on the 22d were over the Grand Banks, having caused rains in southern and snows in central and northern districts from the southern Rocky Mountain region and Plains States eastward. On the 21st warnings for high winds were disseminated to Atlantic coast ports from Sandy Hook northward, and high winds occurred as indicated therein.

Another disturbance followed from Alberta, passing rapidly across the northern border to the Gulf of St. Lawrence by the 23d.

Following these lows another high appeared over British Columbia on the 20th, and an extension from it passed southeastward to northern Texas by the 21st, and thence slowly eastward to Tennessee by the 23d. It moved thence northeastward to the middle Atlantic coast by the 24th, and during the next 12 hours passed off the coast. On the 20th cold wave warnings were issued for portions of the Plains States. On the 21st cold-wave warnings were ordered for the northern portion of the west Gulf States, and warnings of frosts and freezing temperatures for the middle and west Gulf States, and on the 22d cold-wave warnings were issued for the interior of New England and northern New York. The warnings of the 20th and 22d were followed by changes in conformity with the advices. Those issued on the 21st, for portions of the Gulf States, failed of verification on account of the weather becoming cloudy and precipitation occurring. Freezing temperature, however, occurred over the northern portions of the district referred to.

This high was followed by a low that on the 23d was over southern Alberta, whence it passed eastward to the Grand Banks by the 25th. Another low appeared on the extreme South Pacific coast on the 22d and during the next two days advanced to southern New Mexico. It thence moved rapidly eastward to the east Gulf States by the 25th and was then forced southeastward and southward with decreasing intensity until by the 27th there remained only slight indications of a cyclonic circulation off the east Florida coast. The suppression of this low was caused by a high pressure area that on the evening of the 23d was over eastern Saskatchewan. By the 25th it had moved to North Dakota with some of the lowest temperatures reported thus far this season. On the following morning it was over Illinois and another high area had appeared over western New York. The high with a single center was off the New England coast on the following morning, and pressure was high over the entire Atlantic seaboard, remaining so until the evening of the 28th. The low temperatures accompanying these high areas were felt quite generally throughout the country, the line of freezing temperatures extending southward nearly to the Gulf coast.

The next low to cross the country developed in the trough of a North Pacific storm and on the 27th was over

Arizona, a center at the same time being also over Alberta. By the 29th the southern center was over northeastern Missouri with increased intensity, and by the evening of the 30th it was over the Canadian Maritime Provinces. General precipitation in the form of rain in southern and snow in northern districts occurred in connection with this disturbance from the Plains States eastward. On the 28th storm warnings were ordered for the Gulf and on the following day for the Atlantic coast, and a number of stations reported the occurrence of high winds.

It was followed by a high area that first appeared over Saskatchewan on the 29th. Another center, an offshoot from the Pacific Ocean high, being at the same time over southern Idaho. The Canadian high moved southeastward to the Missouri Valley by the 30th and to Kentucky by the last of the month, while the Idaho high moved very slowly southeastward to northwestern New Mexico. Warnings of freezing temperatures were issued for the interior of Texas on the 29th, and temperatures occurred as indicated. On the evening of the 28th and the morning of the 29th cold wave warnings were ordered for almost the entire country from the Plains States eastward to the Appalachian Mountains, and on the 30th warnings were issued for New England and New York. Decided changes to colder weather occurred as indicated in the advices.

At the close of the month a low-pressure area was over Manitoba and the pressure was below normal and falling on the North Pacific coast. High pressure obtained from the St. Lawrence Valley to the middle Gulf coast, and the pressure was also high from Idaho to New Mexico.

NORTHERN HEMISPHERE PRESSURE.

Alaska.—Pressure averaged much above normal for all of Alaska except in the vicinity of Nome, where it averaged below normal. The greatest excess was in the area comprising Valdez and Sitka. Lows occurred about the 1, 3, 5-6, 8, 11, 15-16, 17-18, 22, 27, and 29-31; and highs about the 3-4, 7, 9-10, 12-14, 16-17, 18-19, 24, and 28-29. The storm on the first day of the month caused a great deal of damage in the vicinity of Nome, the Bering Sea ice pack being forced high up on shore and the water driven farther inland than for several years. The trails were reported impassable.

Honolulu.—Pressure averaged decidedly below normal, being continuously below the seasonal average from the 4th to 23d. The principal lows occurred about the 7, 9-10, 11-12, 13-14, 17, 20, and 26. The principal highs occurred about the 1, 23, and 30-31.

Azores.—Pressure averaged slightly above normal. Lows occurred on the 6, 10, 13, 27, and 29-30; and highs on the 2-4, 16, 18, 20-21, 23-24, 28, and 30-31.

Reports from Iceland and Siberia are not available.